South Carolina Department of
Natural Resources

John E. Frampton
Director

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BUREAU OF WATER
WATER QUALITY DIVISION

Ms. Amy M. Bennett
Water Quality Standards Coordinator
SCDHEC
Division of Water Quality
2600 Bull Street
Columbia, SC 29201

REF: Notice of Drafting for the Triennial Review and Revision to R. 61-68, Water Classifications and Standards and Revision to R. 61-69, Classified Waters

Dear Ms. Bennett:

The South Carolina Department of Natural Resources (SCDNR) has reviewed the Notice of Drafting for the Triennial Review and Revision to R. 61-68, *Water Classifications and Standards* and Revision to R. 61-69, *Classified Waters* and offers the following comments.

R. 61-68, Water Classifications and Standards

We recommend that Section E.4.b. on page 13 be modified by replacing the word "which" with "that" on the second line and by deleting the word "orally" on the third line. The modified paragraph would then read:

> When not specifically covered by permit reporting requirements, any unauthorized discharge into waters of the State that may cause or contribute to an excursion of a water quality standard must be reported by the responsible party to the Department within 24 hours of becoming aware of such conditions. Further, written notification must be provided to the Department (Compliance Assurance Division, Bureau of Water) within five (5) days of becoming aware of such conditions and the written notice must include the following:

There are several other instances throughout the document where we recommend the use of the word "that" rather than the word "which".

We recommend that Section E.17 on page 21 be modified by adding the following wording:

d. Spatial distribution of samples in all surface waters shall include surface, mid-depth, and bottom water samples that are representative of conditions throughout the water column.

We also recommend clarification of the dissolved oxygen standard as it applies to lakes and reservoirs. Currently the water quality standard for "freshwaters", designed to protect habitat for aquatic life, specifies a daily mean not less than 5 mg/L and a minimum not less than 4 mg/L in "surface" waters. Compliance with the standard is evaluated by monitoring the top 30 cm of the water column (i.e the very top of the water column). In lakes and reservoirs, there is a considerable volume and area of suitable aquatic habitat that may extend 5 to 10 meters below the top 30 cm. Under normal conditions, this zone is well oxygenated and in compliance with surface water standards. However, under conditions of elevated BOD and/or nutrient loading, with periods of algal die-off, much of this water volume can be impacted by periods of oxygen depletion, although the impact may not extend to the top 30 cm of water. In order to provide more effective protection for this important habitat, we recommend that the definition of "surface" water in lakes and reservoirs include the entire surface layer of water (epilimnion). We believe that this clarification would provide more protection for a reasonable volume of water and area of associated benthic habitat.

This change might require a more specific description of the "surface layer". A suitable definition would be "the layer of water from the water surface down to the thermocline, where the temperature change is greater than one degree centigrade per meter (Wetzel 1983 Limnology). This definition excludes the hypolimnion, which can exhibit periods of low oxygen, even under natural conditions. In addition, since benthic sediments can exert considerable oxygen demand, even under natural conditions, some exclusion of near-bottom waters may also be needed for shallow lakes. For example, if the lake bottom at a monitoring station is shallower than the thermocline, then the "surface layer" (for compliance purposes) would extend down only to within 1m of the bottom sediments.

R. 61-69, Classified Waters

Due to the presence of high quality habitat and/or diverse aquatic fauna (including species of conservation concern), the following surface waters of South Carolina (see attachment) would benefit from a change of classification from FW to ORW. Two of the streams (Back Swamp and Obed Creek) do not appear in the Water Classifications and Standards Regulation 61-69 and would need to be added with proposed classification of ORW. These surface waters represent some of the aquatic habitats identified by SCDNR as priorities for conservation of aquatic resources.

Sincerely,

Robert E. Duncan
Environmental Programs Director

Waterbody Name	Counties	Class	Waterbody Description and (Site Specific Standard)
BACK SWAMP	Drln/Flrn	[ORW]	The entire stream tributary to Great Pee Dee River; part of the stream forms the county boundary between Darlington and Florence counties [add stream to list with classification ORW]
BULLOCKS CREEK	York	FW	The entire stream tributary to Broad River [change classification from FW to ORW]
CEDAR CREEK	Rlnd	FW	That portion of the stream outside the boundary of the Congaree National Park [change classification from FW to ORW for this portion of the stream]
CLARKS CREEK [Clark Fork]	York	FW	The entire stream tributary to Bullocks Creek [change classification from FW to ORW; correct name might be Clark Fork]
MIDDLE SALUDA RIVER	Gnvl	ORW	From its headwaters to the end of State Land at Jones Gap State Park [extend ORW classification further downstream]
OBED CREEK	Spbg	[ORW]	The entire stream tributary to North Pacolet River [add this stream (near Fingerville) with classification ORW]
SHAW CREEK	Aikn,Efld	FW	The entire stream tributary to South Fork Edisto River [change classification from FW to ORW]
SOUTH FORK EDISTO RIVER	Efld,Aikn, Brwl,Orbg, Bmbg	FW	The entire stream tributary to North Fork Edisto River [change classification from FW to ORW]
STEVENS CREEK	Mcmk,Efld	FW	The entire stream tributary to Savannah River [change classification from FW to ORW]
TURKEY CREEK	Efld,Mcmk	FW	The entire stream tributary to Stevens Creek [change classification from FW to ORW]
WACCAMAW RIVER	Hory,Gtwn	FW*	From North Carolina line to its confluence with Thoroughfare Creek (D.O. not less than 4 mg/l, pH 5.0-8.5) [change classification from FW to ORW]